What is claimed:

1. A method for making an ophthalmic lens comprising:

a. contacting the lens with a functional compound, wherein the functional compound comprises at least one group capable of forming a covalent bond with the lens upon exposing the lens to irradiation and/or heat; and

b. irradiating and/or heating the lens produced in step (a) to covalently attach the functional compound to the lens.

2. The method of claim 1, wherein in step (a), the lens is dipped in a solution comprising the functional compound.

3. The method of claim 2, wherein the solution comprises the functional compound in water, an alcohol, a ketone, an ether, an aldehyde, or any combination thereof.

4. The method of claims 1-3, wherein the lens is produced by curing one or more lens-forming materials, wherein the lens-forming material comprises an actinically crosslinkable prepolymer, a thermally-crosslinkable prepolymer, a hydrophilic vinylic monomer, a silicone-containing prepolymer, a silicon-containing vinylic monomer or macromer, a siloxane-containing macromer, or any combination thereof.

5. The method of claims 1-3, wherein the lens comprises a silicon hydrogel.

6. The method of claims 1-5, wherein the functional compound comprises a UV absorbing group, a hydrophilic group, an antimicrobial polymer, a mucin adsorbing group, or any combination thereof.

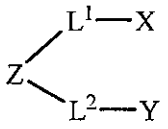
7. The method of claims 1-6, wherein the at least one group capable of forming a covalent bond with the lens comprises a photoinitiator, a thermal initiator, an olefinic group, or any combination thereof.

8. The method of claim 7, wherein the photoinitiator comprises a phosphine oxide, a peroxide group, an azide group, an α-hydroxyketone, or an α-aminoketone.

9. The method of claim 7, wherein the olefinic group comprises an acrylate group, a methacrylate group, an acrylamide group, a methacrylamide group, an allyl group, a vinyl group, a vinylester group, or a styrenyl group.

10. The method of claims 1-5, wherein the functional compound comprises an ultraviolet absorber, a photoinitiator directly or indirectly bonded to the ultraviolet absorber, and an olefinic group directly or indirectly bonded to the ultraviolet absorber.

11. The method of claims 1-5, wherein the functional compound comprises the formula I



I

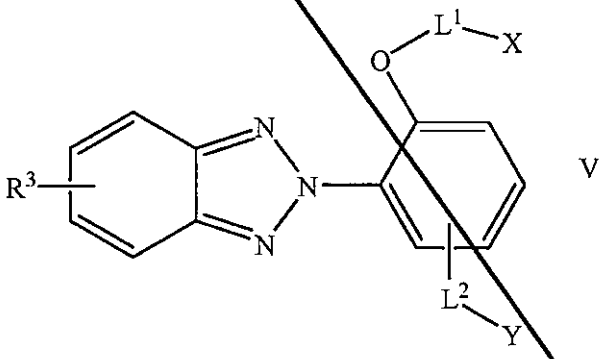
wherein X comprises a photoinitiator;

Y comprises an olefinic group;

Z comprises an ultraviolet absorber; and

L^1 and L^2 comprise, independently, an optional linker.

12. The method of claims 1-5, wherein the functional compound comprises the formula V



V

wherein R^3 comprises hydrogen, an alkyl group, a halogen, an aryl group, an aralkyl group, or an alkoxy group;

L^1 and L^2 comprise, independently, a linker;

X comprises a photoinitiator; and

Y comprises an olefinic group.

13. The method of claims 1-5, wherein the functional compound comprises a hydrophilic polymer bonded to a photoinitiator via a linker.

14. The method of claims 1-5, wherein the functional compound comprises an ultraviolet absorber, a photoinitiator, and a mucin adsorbing unit, wherein the photoinitiator and mucin adsorbing unit are covalently bonded to the ultraviolet absorber.

15. An ophthalmic lens produced by the method of claims 1-14.

CLAIMS

1. A method for making an ophthalmic lens comprising:

contacting the lens with a solution comprising a functional compound in an alcohol, a ketone, an ether, an aldehyde, or any combination thereof, wherein the functional compound comprises at least one group capable of forming a covalent bond with the lens upon exposing the lens to irradiation and/or heat, wherein the lens comprises a silicon hydrogel; and

irradiating and/or heating the lens produced in step (a) to covalently attach the functional compound to the lens, wherein the lens subjected to step a) and step b) treatment has an UVB absorbing capability characterized by having an UVB transmittance being at least 50 percentage lower than that of the lens subjected to only step a) treatment when both lenses are extracted with methyl ethyl ketone for about 20 hours.

2. The method of claim 1, wherein the lens is produced by curing one or more lens-forming materials, wherein the lens-forming material comprises an actinically crosslinkable prepolymer, a thermally-crosslinkable prepolymer, a hydrophilic vinylic monomer, a silicone-containing prepolymer, a silicon-containing vinylic monomer or macromer, a siloxane-containing macromer, or any combination thereof.

3. The method of claim 1, wherein the functional compound comprises a UV absorbing group, a hydrophilic group, an antimicrobial polymer, a mucin adsorbing group, or any combination thereof.

4. The method of claim 1, wherein the at least one group capable of forming a covalent bond with the lens comprises a photoinitiator, a thermal initiator, an olefinic group, or any combination thereof.

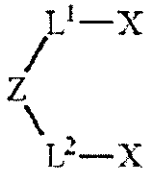
5. The method of claim 4, wherein the photoinitiator comprises a phosphine oxide, a peroxide group, an azide group, an α-hydroxyketone, or an α-aminoketone.

6. The method of claim 4, wherein the olefinic group comprises an acrylate group, a methacrylate group, an acrylamide group, a methacrylamide group, an allyl group, a vinyl group, a vinylester group, or a styrenyl group.

7. The method of claim 1, wherein the functional compound comprises an ultraviolet absorber, a photoinitiator directly or indirectly bonded to the ultraviolet absorber, and an olefinic group directly or indirectly bonded to the ultraviolet absorber.

8. The method of claim 1, wherein the functional compound comprises the formula I

I



wherein X comprises a photoinitiator;

Y comprises an olefinic group;

Z comprises an ultraviolet absorber; and

L^1 and L^2 comprise, independently, an optional linker.

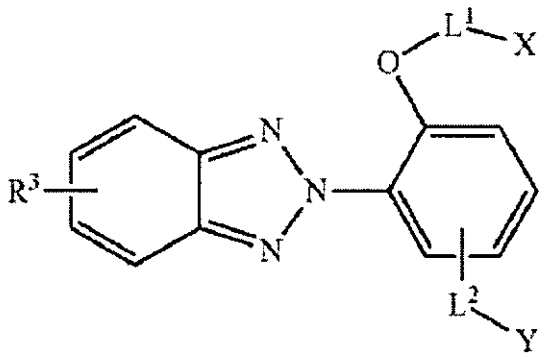
9. The method of claim 8, wherein the ultraviolet absorber comprises a benzotriazole or a benzophenone.

10. The method of claim 8, wherein the photoinitiator comprises a phosphine oxide, a peroxide group, or an azide group.

11. The method of claim 8, wherein the photoinitiator comprises an -hydroxyketone or an -aminoketone.

12. The method of claim 1, wherein the functional compound comprises the formula V

V



wherein R^3 comprises hydrogen, an alkyl group, a halogen, an aryl group, an aralkyl group, or an alkoxy group;

L^1 and L^2 comprise, independently, a linker;

X comprises a photoinitiator; and

Y comprises an olefinic group.

13. The method of claim 1, wherein the functional compound comprises a hydrophilic polymer bonded to a photoinitiator via a linker.

14. The method of claim 1, wherein the functional compound comprises an ultraviolet absorber, a photoinitiator, and a mucin adsorbing unit, wherein the photoinitiator and mucin adsorbing unit are covalently bonded to the ultraviolet absorber.

15. An ophthalmic lens produced by the method of claim 1.